



NSF AST Report

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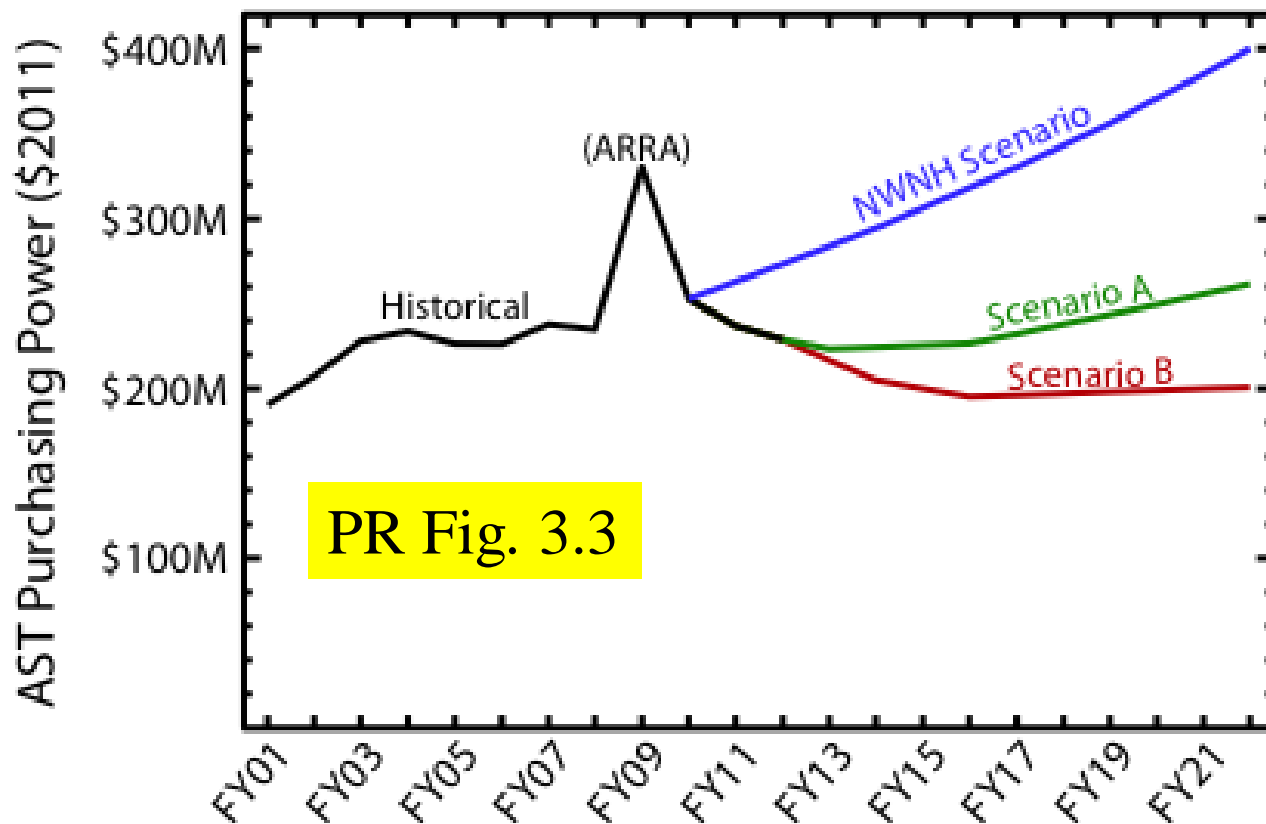
October 16, 2012



Portfolio Review Basics

- National Academy of Sciences (NAS) decadal survey in Astronomy & Astrophysics advised: “If ... budget is truly flat ... there is no possibility of implementing ... the recommended program ... without ... enacting the recommendations of the first 2006 senior review and/or ... a second more drastic ... review before mid-decade.” (p. 240)
 - NAS survey assumed a budget for the Division of Astronomical Sciences (AST) that rises 4%/yr in purchasing power through the decade.
- Such reviews should be carried out periodically in any case, for responsible stewardship of the AST portfolio.
- NSF commissioned Portfolio Review Committee to recommend a balanced program that would do the best job of delivering decadal survey science under a significantly constrained budget scenario

Portfolio Review Budget Scenarios



- Committee used two budget scenarios supplied by AST.
 - Scenario A (Optimistic): Adjusting for inflation, AST purchasing power drops over the next few years to 90% of FY10-12 level, then grows to 106% by FY22.
 - Scenario B (Pessimistic): AST purchasing power drops to 80% of FY10-12, then stays level.
- By FY22, these scenarios are only 50-65% of the *NWNH* scenario!



Basic Recommendations

- At either assumed budget level, recommended current-facility portion of the portfolio is the same
 - Driven by facility complexity, dangers of over-optimism
 - At lower level, facilities/grants/mid-scale are all at ~75% of FY10-12 level
 - At higher level, restore funds to grants and midscale, invest in more new NWNH-recommended facilities later
- Facility recommendations
 - Priority 1 (Fund): ALMA, ATST, VLA, LSST (operations start in 2020), CTIO, Gemini-S, Dunn Solar Telescope (until ~2017)
 - Priority 2 (Keep for now, possibly re-visit later): Arecibo, SOAR, Solar synoptic, Gemini-N
 - Priority 3 (Divest expeditiously): McMath-Pierce Solar Telescope, federal (NOAO) telescopes on Kitt Peak, Green Bank Telescope (NRAO), Very Long Baseline Array (NRAO)



NSF Response to PR Report

- NSF response document was issued on August 31.
- No final decisions have been made yet.
 - Recommendations from AST division must be iterated through the chain of command at NSF and with OMB, so there will be no public NSF “decisions” until the FY14 budget request is released in February 2013; this budget is then subject to Congressional action.
 - Imagine little substantive change in FY14 dollars for facilities, but budget request also will indicate long-term plans for facilities.
- NSF must decide on nature of divestments near the end of CY 2013 in order to realize significant savings by FY 2017.
 - Divesting a telescope does not have to imply closing a site.
 - Emphasize principle of divestment in a responsible manner.
 - Divestment may eventually mean finding a new operator, developing a new partnership, mothballing, or decommissioning.



Relevance for BigBOSS and DESpec

- As stated previously, no final decisions have been made.
 - NSF must decide on nature of divestments near the end of CY 2013 in order to realize significant savings by FY 2017.
- Some general points:
 - The decadal survey used BigBOSS as an example of a science program that might compete in a mid-scale line, but DID NOT recommend it as a strategic initiative.
 - NSF would be unlikely to commit to the Mayall (Kitt Peak 4m) operations costs just to enable Big BOSS after 2017/2018.
 - Current commitment of open time on DECam after completion of Dark Energy Survey is not set in stone, since community will have had five years of using DECam by then.
 - If the Blanco (CTIO 4m) were the only public-access 4m telescope in the NSF portfolio, it would be unlikely that NSF would be willing to dedicate a large portion of its time to any DOE project after 2017/2018.